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QUANTITATIVE STANDARDS FOR AUDIOVISUAL PERSONNEL, EQUIPMENT AND MATERIALS (IN ELEMENTARY, SECONDARY, AND HIGHER EDUCATION).

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THIS DOCUMENT IS A STAGE IN A STUDY TO FORMULATE QUANTITATIVE GUIDELINES FOR THE AUDIO-VISUAL COMMUNICATIONS FIELD, BEING CONDUCTED BY DOCTORS GENE FARIS AND MENDEL SHERMAN UNDER A NATIONAL DEFENSE EDUCATION ACT CONTRACT. THE STANDARDS LISTED HERE HAVE BEEN OFFICIALLY APPROVED AND ADOPTED BY SEVERAL AGENCIES, INCLUDING THE DEPARTMENT OF AUDIOVISUAL INSTRUCTION OF THE NATIONAL EDUCATION ASSOCIATION AND THE ASSOCIATION OF CHIEF STATE SCHOOL AUDIOVISUAL OFFICERS. THE LARGER STUDY IS EXPECTED TO BE COMPLETED IN SEPTEMBER, 1966. GUIDELINES LISTED HERE FALL INTO 4 MAIN CATEGORIES--PERSONNEL, MATERIALS, EQUIPMENT, AND BUDGET. EACH CATEGORY INCLUDES BASIC AND ADVANCED LEVELS OF SPECIFICATIONS. BASIC SPECIFICATIONS DETERMINE QUANTITIES NEEDED FOR A FUNCTIONING PROGRAM IN A SCHOOL, BUT IT IS RECOGNIZED THAT MANY SCHOOLS ARE AT THE ADVANCED STAGE. ADDITIONAL SINGLE COPIES OF THIS REPORT COST 50 CENTS EACH, 10 COPIES ARE AVAILABLE FOR $3.00, 25 COPIES FOR $5.00, AND 100 COPIES FOR $10.00 FROM THE DEPARTMENT OF AUDIOVISUAL INSTRUCTION, NATIONAL EDUCATION ASSOCIATION, 1201 16TH ST., N.W., WASHINGTON, D.C. 20036. (LH)

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QUANTITATIVE STANDARDS FOR AUDIOVISUAL PERSONNEL, EQUIPMENT AND MATERIALS

(In Elementary, Secondary, and Higher Education)

Developed as part of the Faris-Sherman Study conducted under the auspices of the United States Office of Education, National Defense Education Act, Title VII, Part B program.

Adopted By

The Department of Audiovisual Instruction, NEA, at the Board of Directors Meeting in Washington, D.C., on October 30, 1965

and

The Association of Chief State School Audio-Visual Officers at the Executive Board Meeting in Chicago on December 14, 1965

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FOREWORD

Administrators of audio-visual programs have long recognized that the lack of nationally established standards has been a major deterrent to an adequate supply of properly utilized materials and equipment. Numerous efforts have been made at local levels to establish standards but these have been relatively ineffective. Even while formulating their own individual school standards, audio-visual coordinators were pleading for city-wide standards, the cities for state-wide and for the past decade at least, states have requested national standards.

The standards in the pages which follow represent a stage in a study to "Formulate Quantitative Guidelines for the Audio-Visual Communications Field." This study by Dr. Gene Faris and Dr. Mendel Sherman is in progress under the auspices of an NDEA Title VII research contract. The final research report will include a rationale for the standards in addition to visualized case studies of several schools which approximate the standards. Four main categories are included in the standards; personnel, materials, equipment and budget.

The standards have progressed through seven stages in their preparation:

1. A tentative set of quantitative guidelines for selected materials and equipment were formulated by a national committee at the 1963 annual conference of the Department of Audiovisual Instruction.

2. Reactions to these quantitative guidelines and suggestions from audio-visual specialists in various institutions throughout the nation were gathered and consolidated by Dr. Gene Faris. The modified guidelines were reported in the March 1965 issue of Audiovisual Instruction.

3. At the June 1965 meeting of the DAVI Executive Committee, the quantitative guidelines as reported in the March 1965 issue of the Audiovisual Instruction were adopted officially by the organization.

4. In October, 1965, a nationally selected seminar of audio-visual specialists, functioning under the auspices of the NDEA Title VII Faris-Sherman research contract modified and expanded the official DAVI 1965 quantitative guidelines. Members of the seminar included:

TED COBUN, Director, Audiovisual Education,
Niles Township Community High Schools, Skokie, Illinois
AMO DeBERNARDIS, President, Portland Community College,
Portland Public Schools, Portland, Oregon
PAUL FLYNN, State Supervisor, Audiovisual Education,
North Carolina State Department of Public Instruction,
Raleigh, North Carolina
WILLIAM FULTON, Professor of Education, University of
Oklahoma, Norman, Oklahoma

ROBERT GERLETTI, Director, Division of Audiovisual Education, Los Angeles County Schools, Los Angeles, California
HARRY JOHNSON, Director, Audiovisual Center, Virginia State College, Petersburg, Virginia
WILLIAM KING, State Supervisor, Department of Education, State Department of Education, Trenton, New Jersey
MARCUS KONICK, Director, Bureau of Instructional Materials, Pennsylvania Department of Public Instruction, Harrisburg, Pennsylvania
JAMES MEAGHER, Coordinator, Audiovisual Instructional Materials, Penfield Central Schools, Penfield, New York
LESLIE NELSON, Professor of Education, California State College, Los Angeles, California
WILLIAM PRIGGE, Director, Audiovisual Department, Illinois State College, Normal, Illinois
LeROY SIMONSON, Administrative Assistant, Ft. Dodge Schools, Ft. Dodge, Iowa

In three days of deliberation, members of the Seminar studied earlier standards and guidelines which had been formulated by various organizations through the years. Their own vast experiences and constant contact with the field, however, constituted the major resources for the final decisions which were made.

Specified quantities of materials, equipment, and budget and statements related to personnel were placed in columns designated as "basic" and "advanced."

The "basic" specifications represent quantities needed for a functioning program in a school. Many schools are well beyond the basic stage, however, with some exceeding the "advanced" stage in their determination to achieve excellence. It is anticipated that some schools, especially those experimenting with new approaches, may well exceed the "advanced" stage in some categories and perhaps fall behind in others. While such flexibility is desirable, seminar participants and members of the organization who have accepted these standards emphasized the need for a balanced program where materials, equipment and personnel each make their unique and integrated contribution to the instructional program.

5. The Board of Directors of the Department of Audiovisual Instruction, NEA, at their meeting in Washington, D.C., October 31, accepted the quantitative guidelines formulated by the October 14-16, 1965 Seminar of the NDEA, Faris-Sherman Study.

6. On November 17, 1965, the Second Conference of the Study in the Development of Cooperative State Leadership in Educational Media, consisting of representatives of 38 state department commissioners and their audiovisual representatives, unanimously agreed to accept the amended Bloomington Seminar recommended standards of the Faris-Sherman study.

7. The Quantitative Guidelines were accepted as standards by the Executive Committee of the Association of Chief State School Audio-Visual Officers at their December, 1965, meeting in Chicago.

The standards have been brought to the attention of accrediting associations for their use in evaluating schools. Meanwhile the study will continue with the case studies and other aspects of the report until its completion in September, 1966.

PERSONNEL GUIDELINES

(ELEMENTARY AND SECONDARY EDUCATION)

In schools with 15 teachers or less ---- ½ time audiovisual specialist (specialists may serve more than 1 school).

In schools with 16 to 30 teachers ------ 1 full time audiovisual specialist.

Add one audiovisual specialist for each additional 40 teachers or major fraction thereof.

One, or the equivalent, semi-professional assistant (technician, graphic artist, clerk, photographer, etc.) for each 30 teachers.

In schools where audiovisual and library responsibility is combined (the instructional materials concept), the amount of staff required will be determined by adding the above audiovisual requirements to the personnel standards for libraries set by the American Library Association. It is recommended that the first specialist hired be an instructional materials specialist with training in both audiovisual instruction and librarianship.

Every multiple unit school district with at least one high school and four elementary schools shall employ a district or system audiovisual specialist.

MATERIALS GUIDELINES (ELEMENTARY AND SECONDARY)

	BASIC	ADVANCED
16mm films	The films are to be owned by the school system, unit, district, cooperative, etc., and readily available to the schools involved.	
	500 titles plus one additional film per each teaching station over 500 - with duplicates as needed	1000 titles plus one additional film per each teaching station over 1000 - with duplicates as needed
	OR	OR
	An average of 6 film rental bookings per teaching station per school year	An average of 12 film rental bookings per teaching station per school year
Filmstrips	1 per student per ADA the preceding year	1½ per student per ADA the preceding year
Recordings - Tape and Discs exclusive of language lab materials	100 plus 2 per teaching station	300 plus 3 per teaching station

Due to the state of the field and the nature of certain media it is extremely difficult, if not impossible, to develop quantitative guidelines for all types of audio-visual materials. The list below includes some of these materials. Even though quantitative guidelines are not recommended at this time for these materials, it must be recognized that they do make a unique contribution to the instructional program and must be made available for instructors' use. Each item listed must be supported with a fair share of the funds expended for media. The overall objective of the media program should be to provide a wide variety of audio-visual materials with no one item dominating the program.

8mm Films
2x2 Slides
3¼x4 Slides
Transparencies and Transparency Masters
Study Prints
Maps
Globes
Dioramas

MATERIALS BUDGET

To provide for a well-rounded materials program it is recommended that the basic complement of films, filmstrips and recordings be considered capital equipment and be purchased with such funds. To provide for the on-going materials program, including maintenance and replacement but not expansion, no less than 1% of the average per pupil cost in the school unit should be spent per year per student. The 1% amount would include film rentals if no basic film collection is started and subscription television (i.e. MPATI), but would not include salaries, building construction or remodeling, CCTV installations, or electronic learning centers.

To provide for an advanced materials program the 1% figure should be increased to 1.5%.

EQUIPMENT BUDGET

The capital expenditures necessary to secure the equipment recommended herein should be calculated from the price of the equipment. This figure will necessarily vary from school to school due to the range in equipment prices and the excellence of the equipment programs developed.

EQUIPMENT GUIDELINES (ELEMENTARY EDUCATION)

	BASIC	ADVANCED
16mm Sound Projector	1 per 10 teaching stations	1 per 5 teaching stations
8mm Projector	Should have one available for experimental purposes, but no specific guideline at this time. Schools will have to acquire as the field develops and materials become available.	
2x2 Slide Projector	1 automatic projector per shcool	1 automatic projector per 5 teaching stations
Filmstrip or Combination Filmstrip-Slide Projector	1 per 3 teaching stations	1 per teaching station
Sound Filmstrip Projector	Combine available filmstrip projector with existing record player or tape recorder	1 per building
3¼x4 Projector Overhead	1 per school district	1 per school building
3¼x4 Projector Auditorium	1 per auditorium	1 per auditorium
Filmstrip Viewer	1 per 3 teaching stations	1 per teaching station
	Also a quantity of viewers (1 per 3 teaching stations) should be available from a central souce within the building for special project use or for individual study (school or home).	
Overhead Projector (10x10) Classroom type	1 per 4 teaching stations	1 per teaching station
Overhead Projector Auditorium type	Appropriate number for large group instructions	
	An auditorium model overhead merely implies that the machine utilized has sufficient light output and optical capabilities to project a satisfactory image in an auditorium type situation.	

	BASIC	ADVANCED
Opaque	1 per building	1 per 6 teaching stations
TV Receivers	1 per class per TV channel at the grade level having the greatest number of sections - if programs are available	1 per teaching station if programs are available
Micro-Projector	1 per school	1 per 2 grade levels
Record Players	1 per teaching station K-3 1 per grade level 4-6 1 set of earphones per each teaching station - where listening stations are utilized 6-10 earphones needed	1 per teaching station plus earphones for each - where listening stations are utilized 6-10 earphones needed
Tape Recorders	1 per 5 teaching stations	1 per 2 teaching stations with earphones as needed
Projection Carts	1 per portable piece of equipment purchased at the time the equipment is purchased	Permanent installation for projection purposes in each Classroom
Light Control	Every classroom should have adequate light control. Adequate means the availability of facilities to control light to the extent that all types of projected media can be utilized effectively.	
Video-Tape Recorders	2 per school district would be desirable at present time for pilot programs. The state of this field is so dynamic that no specific recommendations can be made	
Closed-Circuit TV	All new construction should include provisions for installation at each teaching station - older buildings should be wired for closed circuit television as need develops.	
Radio-Receivers	1 per school plus one battery type for emergency purposes	1 or more per building as is dictated by instructional needs plus central distribution system (AM-FM)

	BASIC	ADVANCED
Projection Screens	One permanently mounted screen per classroom. 70x70 or larger with provision for eliminating keystoning. Large screen for auditorium or large group instructional area.	Additional portable screen of suitable size for individual and small group use
Local Production Equipment Per Building	Dry Mount Press and Tacking Iron Paper Cutter Transparancy Production Equipment Spirit Duplicator Primary Typewriter Polaroid Camera 35 mm Camera and assessories as needed Film Rewind Film Splicer (8-16mm) Tape Splicer	Add to basic list: 8mm Camera Second type of Transparency Maker Mechanical Lettering Copy Camera and Stand

EQUIPMENT GUIDELINES (SECONDARY EDUCATION)

	BASIC	ADVANCED
16mm Sound Projector	1 per 10 teaching stations	1 per 5 teaching stations
8mm Projector	1 per building	Number will necessarily have to be based on availability of film cartridges. There is a trend toward individual learning stations or independent study and additional equipment will be needed as program develops.
	Significant changes are occurring in the 8mm medium which do not at present justify quantitative guidelines. Because of the important contribution of these films to individual and small group learning, however, conservative quantities have been suggested. As equipment and materials become more stabilized and as sources expand, schools should increase the quantities beyond the amounts suggested in these guidelines.	
2x2 Slide Projector Automatic	1 per building	1 per 5 teaching stations
Filmstrip or Combination Filmstrip-Slide Projector	1 per 10 teaching stations	1 per 5 teaching stations
Sound Filmstrip Projector	Combine available filmstrip projector with existing record player or tape recorder	1 per building
3¼x4 Projector (Overhead)	1 per school district	1 per building
3¼x4 Projector (Auditorium)	1 per auditorium	1 per auditorium
Filmstrip Viewer	1 per 3 teaching stations	1 per teaching station
	Also a quantity of viewers (1 per 2 teaching stations) should be available from a central source within the building for special project use or for individual study (school or home).	

	BASIC	ADVANCED
Overhead Projector (10x10) Classroom type	1 per 4 teaching stations	1 per teaching station
Overhead Projector (10x10) Auditorium type	Appropriate number for large group instruction. An auditorium model overhead merely implies that the machine utilized has sufficient light output and optical capabilities to project a satisfactory image in an auditorium type situation.	
Opaque	1 per building	1 per floor
TV Receivers	1 per department where programs are available	1 per 24 viewers in a classroom where programs are available
Micro-Projector	1 per school	1 per department where applicable
Record Players	1 per 10 teaching stations	1 per 5 teaching stations
Tape Recorders	1 per 10 teaching stations	1 per 5 teaching stations
Projection Carts	1 per portable piece of equipment purchased at the time the equipment is purchased	Permanent installation for projection purposes in each classroom
Light Control	Every classroom should have adequate light control. Adequate implies the availability of facilities to control light to the extent that all types of projected media can be utilized effectively.	
Video-Tape Recorders	2 per school district would be desirable at present time for pilot programs. The state of this field is so dynamic that no specific recommendations can be made.	
Closed-Circuit TV	All new construction should include provisions for installation at each teaching station, and older buildings should be wired for closed-circuit television as needs develop.	

	BASIC	ADVANCED
Radio-Receivers (AM-FM)	3 per building 1 per building should be battery operated. 1 set all-wave for language use.	1 per 10 teaching stations
Projection Screens	One permanently mounted screen per classroom. No smaller than 70 x 70 with keystone elimination. Screen for auditorium and/or large group instructional area.	One permanently mounted screen per classroom plus portable screens as needed. Permanent screen no smaller than 70 x 70 with keystone elimination. Screen for auditorium and/or large group instructional area.
Local Production Equipment Per Building	Dry Mount Press and Tacking Iron Paper Cutter Transparency Production Equipment 16mm Camera 8mm Camera Rapid Process Camera Equipped Darkroom Spirit Duplicator Primary Typewriter Copy Camera and Stand Light Box 35mm Still Camera Film Rewind Film Splicer(8mm and 16mm) Tape Splicer	Add to basic list: Slide Reproducer Second Type of Transparency Production Equipment Mechanical Lettering

PERSONNEL GUIDELINES (HIGHER EDUCATION)

One full-time audio-visual director with supporting staff as needed as program develops. Director might add personnel in the areas of administration, graphics, film production, audio production, ITV, teaching, etc. Start with full-time secretary and add secretarial help as needed.

Many colleges are creating materials centers and consequently the audio-visual program will become a part of this larger organizational pattern. Where this is happening it should be stressed that the recommendations concerning personnel remain the same with the possible addition of a director of the total materials program who could be an audio-visual communications specialist.

MATERIALS GUIDELINES (HIGHER EDUCATION)

	BASIC	ADVANCED
16mm films	500 college level titles plus 2 per instructor over 500. In addition, teacher education institutions should have the basic film collection recommended for elementary and secondary schools (1,000). OR An average of 3 film rentals per instructor per course	1,000 college level titles plus 3 per instructor over 500, plus elementary and secondary basic collection in teacher education institutions. OR An average of 5 film rentals per instructor per course
Filmstrips	2000 titles with duplicates as needed.	3000 titles with duplicates as needed
Recordings - Tape and Disc but not electronic lab materials	1000	2000

Due to the state of the field and the nature of certain media it is extremely difficult, if not impossible, to develop quantitative guidelines for all types of audio-visual materials. The list below includes some of these materials. Even though quantitative guidelines are not recommended at this time for these materials, it must be recognized that they do make a unique contribution to the instructional program and must be made available for instructors' use. Each item listed must be supported with a fair share of the funds expended for media. The overall objective of the media program should be to provide a wide variety of audio-visual materials with no one item dominating the program.

8mm Films
2x2 Slides
3¼x4 Slides
Transparencies and Transparency Masters
Study Prints
Maps
Globes
Dioramas

MATERIALS BUDGET

To provide for a well-rounded materials program it is recommended that the basic complement of films, filmstrips and recordings be considered capital equipment and be purchased with such funds. To provide for the on-going materials program, including maintenance and replacement but not expansion, no less than 1% of the average per pupil cost in the school unit should be spent per year per student. The 1% amount would include film rentals if no basic film collection is started and subscription television (i.e. MPATI), but would not include salaries, building construction or remodeling, CCTV installations, or electronic learning centers.

To provide for an advanced materials program the 1% figure should be increased to 1.5%.

EQUIPMENT BUDGET

The capital expenditures necessary to secure the equipment recommended herein should be calculated from the price of the equipment. This figure will necessarily vary from school to school due to the range in equipment prices and the excellence of the equipment programs developed.

EQUIPMENT GUIDELINES (HIGHER EDUCATION)

	BASIC	ADVANCED
16mm Sound Projector	1 per 12 teaching stations (Multipurpose institution)	1 per 8 teaching stations
	1 per 8 teaching stations (Single purpose institution)	1 per 5 teaching stations
8mm Projector	1 to 3 sound projectors per institution	1 per 10 teaching stations
	Significant changes are occurring in the 8mm medium which do not at present justify quantitative guidelines. Because of the important contributions of these films to individual and small group learning, however, conservative quantities have been suggested. As equipment and materials become more stabilized and as sources expand, schools should increase the quantities beyond the amounts suggested in these guidelines.	
2x2 Slide Projector (Automatic)	1 per 10 teaching stations	1 per 6 teaching stations
Filmstrip or Combination Filmstrip-Slide Projector	1 per 10 teaching stations	1 per 5 teaching stations
Sound Filmstrip Projector	1 per 15 teaching stations	1 per 10 teaching stations
3¼x4 Projector (Overhead)	2 per institution	1 per building
3¼x4 Projector (Auditorium)	1 per auditorium	1 per auditorium plus arc or similar power
Filmstrip Viewer	5 to 10 at each filmstrip	10 to 20 at each filmstrip depository
	It is assumed that viewers will be available for individual use at the depositories. As this activity increases additional viewers should be secured.	
Overhead Projector (10x10) Classroom type	1 per 4 teaching stations	1 per teaching station

	BASIC	ADVANCED
Overhead Projector (10x10) Auditorium type	Appropriate number for large group instructional areas.	
	An auditorium model overhead merely implies that the machine utilized has sufficient light output and optical capabilities to project a satisfactory image in an auditorium type situation.	
Opaque	3 to 6 per institution	8 to 12 per institution
TV Receivers	1 per each 24 viewers where programs available (or projection TV as needed)	1 per teaching station but no more than 24 viewers per set
Record Players	1 per 25 teaching stations	1 per 15 teaching stations
Tape Recorders	1 per 5 teaching stations	1 per 2 teaching stations
Projection Carts	1 per 3 to 6 pieces of equipment	1 per 2 to 4 pieces of equipment
Light Control	Every classroom should have adequate light control. Adequate in this situation means that light can be controlled to the extent that all types of projected media can be utilized effectively.	
Video-Tape Recorders	1 per institution	1 per TV production unit
Closed-Circuit TV	1 studio per institution capable of distribution of programing to each teaching station	
	Many institutions may desire portable closed-circuit units for specialized use. Where this is the case, the portable units should be secured in addition to the basic recommendations noted above.	
Radio-Receivers (AM-FM)	3 available in central location	Equivalent of 1 per classroom building
Projection Screens	1 per teaching station (at least 70x70) with provision for keystone elimination plus 1 portable screen per building. Suitable screen for auditorium - large or small group use.	

	BASIC	ADVANCED
Electronic Learning Lab	1 lab per institution	As programs dictate
Local Production Equipment	Dry Mount Press and Tacking Iron Paper Cutter Transparency Production Equipment 16mm Camera 8mm Camera 35mm Camera Rapid Process Camera Equipped Darkroom Spirit Duplicator Primary Typewriter Copy Camera Light Box Film Rewind Film Splicer Tape Splicer	Add to basic list: Slide Reproducer Second Type of Transparency Producer Mechanical Lettering